

APPALACHIAN VOICES,
CENTER FOR BIOLOGICAL
DIVERSITY, and
SIERRA CLUB,

Plaintiffs,

v.

TENNESSEE VALLEY AUTHORITY,

Defendant.

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Case No. 3:24-cv-411

COMPLAINT

For Declaratory and Injunctive Relief

1. This case challenges the unlawful failure of the country’s largest public utility to conduct the reasoned decision-making required by the Administrative Procedure Act (“APA”), 5 U.S.C. § 551 *et seq.*, and comply with the United States’ bedrock environmental law, the National Environmental Policy Act of 1969 (“NEPA”), 42 U.S.C. § 4321 *et seq.*

3. On June 15, 2021, TVA proposed to retire the Kingston Fossil Plant in Roane County, Tennessee because, like the rest of TVA’s coal fleet, the nearly 70-year-old plant was “contributing to environmental, economic, and reliability risks.”

4. TVA acknowledged that it needed to retire the Kingston Fossil Plant. The question facing the agency was what to replace it with.

5. As required by NEPA, TVA initiated an environmental review to evaluate replacement resources in an environmental impact statement (“EIS”).

6. In its June 15, 2021 Notice of Intent to prepare an EIS, TVA initially proposed to consider three alternatives: a gas-fired power plant in Roane County, Tennessee, (the “Kingston Gas Plant” or the “Plant”); multiple smaller gas-fired plants at alternate locations; or a combination of solar facilities paired with battery storage systems.

7. TVA soon made its intent clear. On August 12, 2021, nearly two years before releasing its draft EIS (the “Kingston Draft EIS” or “Draft EIS”) for public comment, TVA signed a contract with East Tennessee Natural Gas, LLC to build a new 122-mile gas pipeline (“Kingston Gas Pipeline”) to supply all the gas the Kingston Gas Plant would need for at least 20 years.

8. NEPA requires an agency to study a proposal’s environmental impacts and evaluate reasonable alternatives before committing itself to the proposal. But by the time TVA issued its Record of Decision, TVA and East Tennessee Natural Gas, LLC had spent at least \$275 million on one alternative: the Kingston Gas Plant.

9. TVA published the Draft EIS in May 2023, studying the Kingston Gas Plant as “Alternative A,” and a combination of solar and battery resources as “Alternative B.”

10. After a public comment period, TVA published a final EIS in February 2024 (the “Final EIS”) and published its record of decision on April 8, 2024 (the “Record of Decision”).

11. The Final EIS purported to evaluate the environmental consequences of the Kingston Gas Plant, but TVA failed to take the required “hard look” at the Kingston Gas Plant’s impacts on air quality and climate change. By ignoring reasonable alternatives and considering

only one alternative that satisfied TVA’s statement of purpose and need, TVA failed to consider “a reasonable range of alternatives” that “are technically and economically feasible” and “meet the purpose and need of the proposal.” 42 U.S.C. § 4332(2)(C)(iii). These failures and others violate NEPA.

12. During the NEPA process, the Environmental Protection Agency (“EPA”) told TVA just that. Because of “serious deficiencies,” the EPA concluded that “the Final EIS does not satisfy the requirements of NEPA and its implementing regulations.”

13. Ignoring comments from Conservation Groups and the EPA, TVA also underestimated the Kingston Gas Plant’s costs, while inflating those of clean alternatives. TVA chose to build the Kingston Gas Plant based partly on the conclusion that it represented the “lowest total system cost.” In reaching that determination, TVA relied on outdated data, omitted environmental compliance costs, and excluded game-changing financial incentives under the Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818 (“Inflation Reduction Act” or “IRA”).

14. Correcting TVA’s mistakes, multiple reports before the agency’s decisionmakers found the opposite: the Kingston Gas Plant would cost between \$600 million and \$1.4 billion *more* than a solar-and-storage alternative. By offering an explanation that runs counter to the facts, TVA has violated the Administrative Procedure Act’s mandate that agencies engage in reasoned decision-making.

15. Plaintiffs Appalachian Voices, the Center for Biological Diversity, and Sierra Club ask this Court to hold unlawful and set aside TVA’s deficient NEPA analysis and Record of Decision and enjoin further construction and operation of the Kingston Gas Plant.

JURISDICTION AND VENUE

16. The Court has jurisdiction over this civil action under 28 U.S.C. § 1331 (federal

question jurisdiction), and judicial review is available under the Administrative Procedure Act, 5 U.S.C. §§ 701–706.

17. An actual controversy exists between the parties within the meaning of the Declaratory Judgment Act, 28 U.S.C. § 2201(a), and the Court may grant declaratory relief, injunctive relief, and further relief pursuant to 28 U.S.C. §§ 2201–2202 and 5 U.S.C. § 706.

18. Venue is proper in this district under 28 U.S.C. § 1391(b)(2) because TVA’s Kingston Fossil Plant is in this district and a substantial part of the events or omissions giving rise to the claim occurred here.

PLAINTIFF CONSERVATION GROUPS

Appalachian Voices

19. Plaintiff Appalachian Voices is a grassroots nonprofit organization dedicated to bringing people together to protect the land, air, and water of Central and Southern Appalachia and to advance a just transition to a sustainable and equitable clean-energy economy.

20. Appalachian Voices was founded in 1997 and is headquartered in Boone, North Carolina, with additional offices in Knoxville, Tennessee, Charlottesville, Virginia, and Norton, Virginia.

21. Appalachian Voices has over 900 members in Central and Southern Appalachia and combines grassroots organizing, policy advocacy, and technical expertise in order to hold decision-makers accountable to local communities. Through public comments, education, communication initiatives, and the provision of resources and data, Appalachian Voices works collaboratively with local, state, and regional partners to promote energy efficiency and encourage the development of clean and affordable energy.

22. Appalachian Voices is committed to assisting people throughout Appalachia in their efforts to shape the energy future of their own communities. TVA’s energy choices are a

priority for Appalachian Voices.

23. Appalachian Voices meets with TVA and TVA-area distribution utilities to advocate for clean energy and supports communities across the region to help them organize and plan advocacy campaigns related to TVA's and TVA-area distribution utilities' energy choices. Appalachian Voices also regularly comments on NEPA reviews for TVA energy projects and helps community members democratically engage in TVA's decision-making process, including by participating in TVA Board meetings and NEPA reviews.

24. Appalachian Voices has members who live in areas served by TVA and whose interests are threatened by the Kingston Gas Plant. Those members include Peggy and Amy Sexton, who have concrete property, recreational, aesthetic, health, and informational interests that are threatened by the plan TVA selected in the Final EIS and Record of Decision.

25. Peggy Sexton lives with her daughter, Amy Sexton, in Harriman, Tennessee, about five miles from the Kingston Fossil Plant. Peggy Sexton also owns a 589-acre property in Lancing, Tennessee, which would be crossed by the proposed pipeline. The Sextons do not want the pipeline to cross the family property in Lancing. Peggy and Amy both appreciate the diversity of trees and wildlife on the property. A researcher found 27 different species of trees and birds on the Lancing property, and Peggy and Amy Sexton enjoy viewing the wildlife and providing good habitat for them. Peggy and Amy Sexton understand that pipeline construction would destroy trees as well as two ponds on the property.

26. Peggy Sexton's property is quiet and remote, but the Sextons have had a problem with trespassers riding all-terrain vehicles on their property. The trespassers destroy the terrain and leave trash which diminishes the Sextons' enjoyment of their property. The Sextons understand that East Tennessee Natural Gas plans to widen the road it uses to access the existing pipeline's

right-of-way during construction of the Kingston Gas Pipeline. They are concerned that, because of the widened access road, the family property will see more trespassers who will cause more damage.

27. The Sextons are concerned that any pipeline rupture could damage the land and buildings on the Sexton family property in Lancing.

28. Peggy and Amy Sexton both have respiratory issues and use inhalers. When in Harriman, Peggy and Amy pay attention to air pollution conditions and avoid spending time outside when air pollution is bad. Both enjoy spending time outside, and Amy particularly enjoys gardening and taking care of the yard. Amy is also a wildlife photographer, and she takes pictures of wildlife on their property in Harriman. Amy's enjoyment of near-daily outdoor time spent gardening, birdwatching, and photographing the outdoors will be impaired by air pollution from a new fossil plant's construction and operation. The Kingston Gas Plant's air pollution will also exacerbate Peggy's and Amy's existing respiratory problems.

Center for Biological Diversity

29. The Center for Biological Diversity ("the Center") is a national nonprofit conservation organization with more than 1.7 million members and online activists who care about the country's urgent need to expedite the renewable-energy transition and protect human health, the natural environment, and species from the ravages of the climate emergency, extinction crisis, and environmental degradation. The Center advocates for wildlife and wild places through legal work, scientific research, and community organizing. The Center regularly collaborates with federal, state, and local governments, as well as public and private organizations, to advance its mission.

30. The Center is focused on preserving biodiversity. That work includes advocacy to mitigate the extent and effects of climate change, which jeopardizes biodiversity worldwide. The

Center also advocates to reduce the impact of consuming fossil fuels, both in terms of their contribution of greenhouse gas emissions into the atmosphere and the local impacts of the hazardous by-products created in consuming coal and other fossil fuels. For the retirement of the Kingston Fossil Plant, the Center advocated that TVA evaluate “a *full range of renewable energy alternatives*, including an alternative that largely or completely relies on [distributed energy resources], storage, and energy efficiency” as carbon-free replacement resources.

31. Approximately 8,100 of the Center’s members and supporters live in the states served by TVA. The Center’s work aimed at reducing the impact of fossil-fuel consumption has frequently addressed, on the Center’s behalf and with partners, the need to protect habitat and wildlife in Tennessee.

32. The Kingston Gas Plant, including the pipeline that will supply it, may affect a diverse collection of species in Middle and East Tennessee. The proposed pipeline would directly impact streams and wetlands through construction activities, runoff, and erosion. Those impacts could contaminate waterbodies, disrupting or even destroying habitat for a wide variety of freshwater species, including the federally protected Alabama lampmussel (*Lampsilis virescens*), sickle darter (*Percina williamsi*), Tennessee bean (*Villosa perpurpurea*), and spotfin chub (*Erimonax monachus*).

33. The Center for Biological Diversity has members whose interests are also threatened by the Kingston Gas Plant. Those members include Belinda Woodiel-Brill and Tierra Curry, who have concrete recreational, aesthetic, and health interests that are threatened by the plan TVA selects in the Final EIS and Record of Decision.

34. Belinda Woodiel-Brill is a member of the Center for Biological Diversity and has been for seven years. Ms. Woodiel-Brill and her husband have lived in Morgan County, Tennessee

for almost 20 years and have family ties to the area dating back to the 1800s. Their property is a mile and a half from the proposed pipeline and backs up to Clear Creek in the Obed River watershed. Ms. Woodiel-Brill and her husband frequently recreate in Clear Creek, and she enjoys looking for a variety of wildlife in its clear waters. She is concerned about the adverse effects of sediment from the construction and operation of the pipeline associated with the Kingston Gas Plant on the water and wildlife she loves, from its direct effect on aquatic species to its obstruction of light needed by plants living on the creek bed. The pipeline construction will disrupt the natural beauty of the watershed Ms. Woodiel-Brill enjoys. She worries the pipeline will disrupt the complex forest ecosystem by clearing trees for construction and displacing the bats, coyotes, deer, and Eastern box turtles who call it home and that Woodiel-Brill and others enjoy observing.

35. Tierra Curry is a biologist and member of the Center for Biological Diversity. Based in Somerset, Kentucky, Ms. Curry regularly visits the Obed, Emory, and Clinch rivers to swim and look for wildlife. Ms. Curry enjoys studying and observing freshwater mussels, crayfish, fish, and other animals in these rivers. Ms. Curry has spent her life working to protect aquatic species, including the sickle darter, Obed crayfish, and hellbender salamander. Relying on both her personal and professional experience, Curry believes the construction of this pipeline will degrade the waterways she enjoys visiting and harm aquatic species she enjoys observing.

Sierra Club

36. Plaintiff Sierra Club is the nation's oldest and largest grassroots environmental organization. Sierra Club is a national nonprofit organization of over 636,000 members nationwide, dedicated to exploring, enjoying, and protecting the wild places of the Earth; to practicing and promoting the responsible use of the Earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club has approximately 7,525

members in Tennessee. Sierra Club brings this action on its own behalf and on behalf of its members.

37. Sierra Club has long been concerned about environmental issues in the Tennessee Valley, including impacts from the power sector, such as land use, air and water pollution, and climate change. Sierra Club advocates for a clean-energy transition for TVA and other utilities nationwide to reduce or eliminate climate-warming emissions and provide affordable renewable energy and renewable-energy jobs.

38. To advance these goals, Sierra Club routinely participates in the administrative processes for proposed TVA projects—including, but not limited to, new power plants—and encourages TVA to pursue carbon-free alternatives to fossil fuels, such as solar and wind generation, battery storage, energy-efficiency programs, and more. Sierra Club also advocates for a clean-energy portfolio every several years during the development of TVA's integrated resource plan, a statutorily mandated, forward-looking process in which TVA is supposed to make decisions about its future power supply to guide project-level decision-making. Sierra Club uses the information it obtains through project-level NEPA documents to shape and support its advocacy about the choices TVA is tasked with making during integrated resource planning.

39. Sierra Club has members whose interests are threatened by the Kingston Gas Plant. Those members include Elaine Steele, Sue Havens, and Keith Havens, who have concrete recreational, aesthetic, and health interests that are threatened by the plan TVA selects in the Final EIS and Record of Decision and that NEPA's procedures are intended to protect.

40. Sierra Club member Elaine Steele lives in Harriman, Tennessee, less than two miles from the Kingston Fossil Plant. She frequently visits Lakeshore Park, which is located on the site of TVA's 2008 coal ash spill. The park is less than a mile from the TVA Kingston site. Ms. Steele

walks her dog at the park almost every day. When her grandson visits, Ms. Steele, her husband, and grandson enjoy riding bikes together through Lakeshore Park. She regularly kayaks and paddleboards on the Emory River. She occasionally goes fishing and takes her dog to swim in the river. Ms. Steele enjoys seeing the wildlife in the area, whether while boating or walking along the river.

41. Ms. Steele has asthma. Air pollution from TVA's Kingston Gas Plant is likely to harm Ms. Steele's health and trigger her asthma, impairing her enjoyment of her recreational activities in the area. She is concerned that the Kingston Gas Pipeline's construction will harm the water quality and aquatic life of the Emory River, impairing her recreational and aesthetic enjoyment of the river.

42. Keith Havens and Susan Prince Havens, a married couple, are both members of Sierra Club and Appalachian Voices. The Havenses live in Deer Lodge, Tennessee. They understand that the Kingston Gas Pipeline would cross White Creek about 200 meters from their property. The Havenses enjoy canoeing, kayaking, hiking, birding, foraging mushrooms, and observing wildlife in and along the local streams, creeks, and rivers. Mr. Havens is a triathlete who trains by swimming in Clear Creek downstream of White Creek. The Havenses purchased the property in 1996 and moved to the area in 2012 to spend more time on the area's pristine rivers, including White Creek, Clear Creek, and Little Clear Creek.

43. The Havenses are concerned that the Kingston Gas Pipeline's construction will impair the quality of White Creek through sedimentation, harming the aquatic life they enjoy observing. The Havenses love spending time on White Creek and Clear Creek largely because they are pristine creeks. Degrading their water quality with sediment from construction would impair the Havenses' enjoyment of their many recreational activities on the creeks.

* * *

44. These and other harms and injuries suffered by Appalachian Voices, the Center for Biological Diversity, Sierra Club, and their members can and should be redressed by a judgment declaring unlawful and vacating TVA's decision to build the Kingston Gas Plant and enjoining further construction or operation of the Kingston Gas Plant. TVA's failures to fairly evaluate the impacts and alternatives of the Kingston Gas Plant and TVA's arbitrary conclusion that the Kingston Gas Plant is the lowest-system-cost alternative are directly connected to the agency's decision to proceed with the Kingston Gas Plant. An order from this Court vacating TVA's final decision may lead the agency to abandon or modify the project. Because TVA's Kingston Gas Plant would be the exclusive end user of the Kingston Gas Pipeline, an order from this Court vacating TVA's final decision may also cause East Tennessee Natural Gas to abandon or modify the proposed pipeline. Individual participation of the members of Appalachian Voices, the Center for Biological Diversity, and Sierra Club is not necessary to evaluate TVA's compliance with NEPA or to provide prospective or injunctive relief.

45. Appalachian Voices, the Center for Biological Diversity, and Sierra Club all participated actively in TVA's administrative process for the Kingston Gas Plant and have exhausted administrative remedies for the NEPA violations alleged in this action. On July 3, 2023, all three Conservation Groups submitted comments on the Draft EIS. On or before March 19, 2024, Appalachian Voices and Sierra Club again wrote to TVA, requesting supplementation to correct the deficiencies of the Final EIS. TVA did not respond to the Final EIS letter before issuing its Record of Decision.

DEFENDANT TENNESSEE VALLEY AUTHORITY

46. Defendant TVA is a federally owned electric utility corporation that operates the nation's largest public power system. TVA is a corporate agency and instrumentality of the United

States created by and existing pursuant to the Tennessee Valley Authority Act of 1933 (“TVA Act”), 16 U.S.C. §§ 831–831dd. Members of TVA’s Board of Directors are appointed by the President. 16 U.S.C. § 831a(a)(1).

47. TVA is an unusual agency. Unlike most other federal agencies, TVA derives virtually all its funding from generating and selling electricity. TVA supplies power to a population of approximately ten million people across seven states, primarily through contracts with nonprofit local distributors, such as municipal power companies and member-owned rural cooperatives, which in turn distribute the electricity to residential, commercial, and industrial customers within their service areas. TVA also sells power directly to large industrial customers.

48. TVA is also an unusual electric utility. Unlike its private counterparts, TVA is largely free from oversight or competition. TVA’s decisions are not subject to scrutiny by a public utility commission. TVA does not have shareholders to which its Board of Directors is accountable. TVA has shielded itself from market forces by locking local distributors into perpetual and exclusive contracts. Unlike other transmission operators, TVA consistently refuses to allow access to its transmission grid to third parties, erecting an additional obstacle for municipal power companies or rural cooperatives to receive power from providers other than TVA.

49. TVA is, however, bound by federal laws, including NEPA and the APA, and is subject to judicial review under the APA and the TVA Act, which provides that TVA “[m]ay sue and be sued in its corporate name.” 16 U.S.C. § 831c(b).

50. TVA maintains its headquarters in Knoxville, Tennessee.

ADMINISTRATIVE PROCEDURE ACT (“APA”)

51. The Administrative Procedure Act, 5 U.S.C. § 551 *et seq.*, provides that “[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.” 5 U.S.C. §

702.

52. The APA provides that “[t]o the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action.” 5 U.S.C. § 706. In addition, the APA provides that a court shall “set aside agency action, findings, and conclusions” that are “found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” “in excess of statutory jurisdiction, authority, or limitations, or short of statutory right,” or “without observance of procedure required by law.” 5 U.S.C. § 706(2)(A), (C), (D).

NATIONAL ENVIRONMENTAL POLICY ACT

53. NEPA establishes a national policy to encourage “productive and enjoyable harmony between” humans and the environment; “promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare” of humankind; and “enrich the understanding of the ecological systems and natural resources important to the Nation.” 42 U.S.C. § 4321.¹

54. In pursuit of these goals, NEPA mandates a set of action-forcing procedures that require all federal agencies to take a hard look at the environmental consequences of their proposed actions and disclose the relevant information to the public. Although NEPA’s requirements are

¹ Plaintiffs herein cite current provisions of NEPA, which Congress last amended on June 3, 2023, before the Final EIS and Record of Decision. Fiscal Responsibility Act of 2023, Pub. L. No. 118-5 (2023). Since 2022, the Council on Environmental Quality has issued “Phase 1” and “Phase 2” rules amending its NEPA regulations. National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23453 (Apr. 20, 2022); National Environmental Policy Act Implementing Regulations Revisions Phase 2, 89 Fed. Reg. 35442 (May 1, 2024). The Phase 1 rule was effective during the Kingston Gas Plant NEPA process, but the Phase 2 rule was not. Accordingly, Plaintiffs herein cite the CEQ regulations as amended by Phase 1 but not Phase 2.

procedural, “these procedures are almost certain to affect the agency’s substantive decision.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

55. NEPA and its implementing regulations require federal agencies to provide a “detailed statement” on proposals for “major federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C); *see also* 40 C.F.R. § 1500.1(a).

56. This detailed statement—called an environmental impact statement, or EIS—“shall be prepared early enough so that it can serve as an important practical contribution to the decision-making process and will not be used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5.

57. The EIS must describe the direct, indirect, and cumulative effects of the proposed action, and any adverse environmental effects that cannot be avoided if the proposal is implemented. 42 U.S.C. § 4332(2)(C)(i)–(ii); 40 C.F.R. § 1508.1(g)(1)–(3).

58. Direct effects are “caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.1(g)(1). Indirect effects “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* § 1508.1(g)(2). Cumulative effects “result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.” *Id.* § 1508.1(g)(3).

59. An EIS must discuss effects “resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial.” 40 C.F.R. § 1508.1(g)(4).

60. The EIS must also discuss “a reasonable range of alternatives to the proposed

agency action . . . that are technically and economically feasible, and meet the purpose and need of the proposal.” 42 U.S.C. § 4332(2)(C)(iii). *See also* 40 C.F.R. §§ 1502.14(a) (directing agencies to “[e]valuate reasonable alternatives to the proposed action”); 1508.1(z) (“*Reasonable alternatives* means a reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action.”).

61. The EIS must discuss “any irreversible and irretrievable commitments of Federal resources which would be involved in the proposed agency action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v).

62. NEPA regulations require agencies to discuss the “[m]eans to mitigate adverse environmental impacts.” 40 C.F.R. § 1502.16(a)(9).

63. Agencies must “ensure the professional integrity, including scientific integrity, of the discussion and analysis in an [EIS].” 42 U.S.C. § 4332(2)(D).

TVA ACT

64. TVA is authorized to “produce, distribute, and sell electric power.” 16 U.S.C. § 831d(l).

65. TVA has a nine-member Board of Directors. 16 U.S.C. § 831a(a)(1). Board members’ duties include the obligation to “establish the broad goals, objectives, and policies of the Corporation,” “develop long-range plans to guide the Corporation in achieving the goals, objectives, and policies of the Corporation,” and “ensure that those goals, objectives, and policies are achieved.” *Id.* § 831a(g)(1)(A)–(C). Each board member “shall affirm support for the objectives and missions of the Corporation, including being a national leader in technological innovation, low-cost power, and environmental stewardship.” *Id.* § 831a(b)(5).

66. In 1992, Congress amended the TVA Act to require the agency to implement a “least-cost planning program.” *See* 16 U.S.C. § 831m-1. This statutory mandate requires TVA to

engage in “a planning and selection process for new energy resources which evaluates the full range of existing and incremental resources (including new power supplies, energy conservation and efficiency, and renewable energy resources) in order to provide adequate and reliable service to electric customers of the Tennessee Valley Authority at the lowest system cost.” *Id.* § 831m-1(b)(1).

67. The TVA Act defines “system cost” as “all direct and quantifiable net costs for an energy resource over its available life, including the cost of production, transportation, utilization, waste management, [and] environmental compliance.” 16 U.S.C. § 831m-1(b)(3). “[M]ore than dollars and cents . . . [system cost] also includes ‘harms that [a decision] might do to human health or the environment.’” *Ky. Coal Ass’n, Inc. v. TVA*, 804 F.3d 799, 802 (6th Cir. 2015) (quoting *Michigan v. EPA*, 576 U.S. 743, 752 (2015) (third alteration in original)). Finally, in its planning and selection process, TVA must “treat demand and supply resources on a consistent and integrated basis.” 16 U.S.C. § 831m-1(b)(2)(C).

TVA’S CURRENT AND PLANNED GENERATION FLEET

68. For the fiscal year ending September 30, 2023, gas and coal accounted for fifty-seven percent of the capacity in TVA’s generation fleet.

69. In addition to burning fossil fuels such as coal and gas, TVA also produces electricity with nuclear power plants, hydroelectric dams, and a very limited amount of wind and solar.

70. For the fiscal year ending September 30, 2023, less than one percent of TVA-owned capacity was from wind or solar resources. Including power purchase agreements, wind and solar accounted for 4% of the energy TVA sold.

71. As of the September 30, 2023, TVA did not own any active battery storage systems.

72. TVA’s gas-fired fleet uses two basic types of technology: simple-cycle combustion

turbines and combined-cycle units. A simple-cycle combustion turbine is essentially a jet engine that burns gas to produce electricity. A combined-cycle unit initially employs a gas-fired combustion turbine to produce electricity, and then recovers waste heat from the combustion-turbine exhaust to generate steam, which, in turn, powers a steam turbine that generates additional electricity.

73. TVA operates eighty-seven simple-cycle combustion turbines, fourteen combined-cycle power blocks, and a single cogeneration unit that burns gas to produce electricity and also to generate steam for sale to an industrial customer.

74. Under the TVA Act's mandate to implement a least-cost planning program, 16 U.S.C. § 831m-1, TVA prepares a comprehensive study every few years that provides the utility's view on how best to meet future electricity demand over the next two decades. This study is called an Integrated Resource Plan ("IRP"). TVA issued its most recent IRP in 2019.

75. The 2019 IRP contains notably few decisions about TVA's future operations. Instead, TVA largely decided not to decide.

76. The 2019 IRP identified a wide range of future scenarios and recommended that TVA retain maximum flexibility by deferring most resource decisions to a later date.

77. For example, the 2019 IRP contemplates that TVA could add between 800 and 9,800 megawatts of new combined-cycle capacity by 2038.

78. The 2019 IRP assumed that TVA would retire its Paradise and Bull Run coal plants, for which TVA had already issued final retirement decisions. The 2019 IRP also recommended evaluating retiring "up to 2,200 [megawatts] of additional coal capacity if cost-effective."

79. TVA prepared a programmatic EIS for the 2019 IRP. In that EIS, TVA expressly recognized that "[t]he more site-specific effects of actions that are later proposed to implement the

IRP will be addressed in subsequent tiered environmental reviews.” The EIS also expressly declined to consider the cumulative impacts of site-specific decisions to implement the 2019 IRP, instead deferring that analysis to future reviews of site-specific actions.

80. During its August 2019 meeting, the TVA Board adopted the 2019 IRP.

TVA’S NEPA REVIEW AND PRECOMMITMENT TO THE KINGSTON GAS PLANT

81. Since 2021, TVA has decided to replace aging coal- and gas-fired units at its Allen, Johnsonville, and Cumberland sites with new gas-fired units at its Paradise, Colbert, and Cumberland sites.

82. Under TVA’s current chief executive officer, Jeff Lyash, TVA has engaged in a multi-year public relations campaign to sell the public and key decision-makers on new methane gas-fired power plants as the only way to replace retiring coal plants.

83. In a letter to Congress on February 2, 2022, Mr. Lyash took the position that “[TVA’s] investments in bridge natural gas generation enable additional retirements of older coal-fired units with higher carbon intensity and provide additional reliability, complementing the increased renewable resources.” Letter from Jeffrey J. Lyash, TVA, to U.S. House of Representatives Comm. on Energy and Commerce (Feb. 2, 2022).

84. On its website during the Kingston NEPA process, TVA published an article entitled “Debunking 4 Myths About TVA’s Plans for Natural Gas.” TVA told the public that “Gas is a necessary technology to support coal retirements and enable expansion of renewables[.]”

85. On August 24, 2023, the TVA Board of Directors provided an “initial approval” for the “Kingston Energy Solution,” including the project in the FY 2024 TVA budget. Through the initial approval, the Board also delegated final decision-making authority on the project to Mr. Lyash.

86. At a February 14, 2024, Board meeting, Mr. Lyash told the TVA Board of Directors, “[O]ur business plan calls for nearly \$15 billion in additional capital expenditures during the next three years to add generation to this mix to support the retirement of some of our aging units. These investments include . . . investments in gas units necessary—necessary—to provide us generation, flexibility, power to meet greater peak demand, and replacement power for coal retirements.”

87. Before TVA finalized its NEPA process, it had entered into contracts for the pipeline and combustion turbines the Kingston Gas Plant would require.

The Precedent Agreement

88. On August 12, 2021, TVA entered into a precedent agreement (“Precedent Agreement”)—a long-term gas-supply contract—with pipeline developer East Tennessee Natural Gas, LLC for all the transportation capacity on a new 122-mile pipeline that would connect the Kingston Gas Plant to its gas supply.

89. TVA and East Tennessee Natural Gas amended the contract in December 2022, July 2023, and March 2024.

90. Through a Freedom of Information Act request, Conservation Groups obtained heavily redacted copies of the Precedent Agreement and the above-listed amendments.

91. Citing the Precedent Agreement as evidence of market need for its pipeline, East Tennessee Natural Gas has applied for a Certificate of Convenience and Necessity (“Certificate”) from the Federal Energy Regulatory Commission (“FERC”). East Tennessee Natural Gas wrote to FERC that “[t]he Precedent Agreement is East Tennessee’s firm commitment to provide natural gas transportation service to satisfy TVA’s new demand for natural gas related to the proposed conversion of TVA’s Kingston Fossil Plant from coal to natural gas.”

92. Acting pursuant to the Precedent Agreement, East Tennessee Natural Gas invested

tens of millions of dollars in the proposed Kingston Gas Pipeline before TVA issued the Record of Decision. In a Securities and Exchange Commission filing, East Tennessee Natural Gas's parent company, Enbridge, reported that it had spent \$94 million on the project by March 31, 2024.

93. While TVA has publicly disclosed only redacted copies, unredacted portions indicate that the Precedent Agreement irrevocably commits TVA resources to the Kingston Gas Plant.

94. The Precedent Agreement includes redacted sections entitled "Pre-Service Costs," "Limitations on Damage," "Conditions Precedent," and "Termination."

95. Section 5 of the Precedent Agreement states that, upon satisfaction or waiver of conditions precedent, TVA and East Tennessee Natural Gas "shall execute the Service Agreement," which the contract defines as a "firm transportation service agreement."

96. If the parties enter into a service agreement, East Tennessee Natural Gas will recover some or all of its Kingston Gas Pipeline expenses through rates TVA pays.

TVA's Contract with General Electric for Combustion Turbines

97. On December 22, 2022, TVA executed a contract with General Electric ("GE Contract") for turbines and other equipment needed for proceeding with Alternative A.

98. Conservation Groups have received a copy of the GE Contract through a Freedom of Information Act request. That copy has extensive redactions.

99. In an email to the Board, TVA's CEO Jeff Lyash explained that the GE Contract "includes an option for TVA to purchase equipment for a potential [combined cycle] plant at Kingston." He explained, "These long-lead procurement actions are necessary . . . to lock in pricing on a potential [combined cycle] plant at Kingston."

100. TVA did not terminate the GE Contract before finalizing the NEPA process.

101. If TVA chose to terminate the GE Contract, TVA would owe GE "the total

compensation due under this Contract for that portion of the Work that [GE] has completed.” Provision 3.2(g).

102. The GE Contract features heavily redacted sections on “Liquidated Damages,” “Terms of Payment,” “Indemnity,” and “Performance Assurance.”

103. In an April 30, 2024 filing with the Securities and Exchange Commission, TVA stated, “In 2023, TVA made available to the public a draft EIS to assess the impacts associated with the potential retirement of Kingston Fossil Plant and the construction and operation of facilities to replace that generation. . . . As of March 31, 2024, TVA had spent \$181 million on long lead time equipment in connection with this planned project.”

TVA’s Draft Environmental Impact Statement

104. On May 12, 2023, TVA published its Draft EIS purportedly evaluating the environmental impacts of and alternatives to replacing the Kingston Fossil Plant with other generation resources.

105. Conservation Groups commented on the extensive deficiencies in the Draft EIS.

106. In a comment letter, EPA also raised “substantial” concerns. U.S. EPA, Comments on the Draft EIS for the Kingston Fossil Plant Retirement, Roane County, Tennessee; CEQ No: 20230067 (Jun. 29, 2023) (hereinafter “EPA Draft EIS Comments”).

I. Purpose and Need

107. The Draft EIS stated that the “purpose of the Proposed Action is to retire and decommission all nine of the existing [Kingston Fossil Plant] units by the end of 2027 and implement replacement generation that can supply at least 1,500 MW of firm, dispatchable power by the time the units are retired in 2027.”

108. To support the 2027 timeline, TVA pointed to an analysis TVA conducted entitled “Aging Coal Fleet Evaluation.” The Aging Coal Fleet Evaluation recommended that TVA

incorporate certain retirement dates for its various coal plants into the agency's planning assumptions.

109. TVA also justified the 2027 timeline by pointing to the effluent limitation guidelines ("ELGs"), EPA regulations establishing pollution limits for wastewater from coal plants. TVA explained that "a significant monetary investment would be required to comply with the requirements of the 2020 [effluent limitation guidelines] and other environmental regulations."

110. Conservation Groups and EPA commented that TVA's insistence on a 2027 deadline arbitrarily limited TVA's consideration of alternatives.

111. EPA recommended "greater disclosure given the 2027 timeframe substantively narrowed the purpose and need and thus limited the consideration of alternatives and available mitigation options in the [Draft EIS]."

112. Conservation Groups and EPA emphasized that the ELGs do not support a 2027 deadline.

113. As the agency that creates and implements the ELGs, EPA pointed out that Kingston could avoid new pollution restrictions even if it operates two years after 2027.

114. EPA highlighted that "the Steam Electric ELGs promulgated in 2020 requires, where applicable, the permanent cessation of coal combustion to be completed by December 31, 2028, not 2027." EPA also highlighted that the 2023 proposed ELGs would give utilities more "time flexibilities" if retiring by 2028 would cause "reliability concerns."

115. In effect, the then-draft ELG rule would allow qualifying plants to operate without new pollution restrictions up to December 31, 2029.

116. Conservation Groups noted that the Aging Coal Fleet Evaluation—TVA's other purported basis for the 2027 deadline—is a non-NEPA document, which was not otherwise

circulated for notice-and-comment review. Conservation groups also noted that the Aging Coal Fleet Evaluation made recommendations, not final decisions.

II. Alternatives Analysis

117. To replace 1,398 megawatts of the retiring coal plant's capacity, TVA proposed two "Alternatives." Alternative A, the Kingston Gas Plant, featured at least 1,500 megawatts of gas-fired capacity (a combined-cycle gas unit and sixteen aeroderivative combustion turbines), a 100-megawatt battery storage facility, and 3 to 4 megawatts of solar generation. Alternative B consisted of a combination of 1,500 megawatts of solar facilities paired with 2,200 megawatts of battery-storage facilities.

118. The Draft EIS concluded that the Kingston Gas Plant—Alternative A—was the only alternative that, according to TVA, would satisfy the proposal's purpose and need.

119. The Draft EIS identified various resources—including energy efficiency, demand response, and wind—as potential alternative sources of electricity.

120. The Draft EIS ruled out those resources from "further discussion" by concluding that each, on its own, could not replace the Kingston Fossil Plant.

121. The Draft EIS assumed that transmission upgrades for Alternative B would take eight to nine years.

122. The Draft EIS acknowledged that TVA had not yet identified the sites for solar or battery storage projects.

123. In comments, EPA and Conservation Groups wrote that TVA had failed to consider a reasonable range of alternatives.

124. EPA recommended TVA consider "one or more additional blended alternative that uses a more balanced mix of renewables and natural gas, such as larger solar power systems than proposed in Alternative A in combination with smaller new natural gas capacity."

125. EPA and Conservation Groups recommended that TVA evaluate whether a combination of energy efficiency (measures to make less energy achieve the same results), demand response (measures to lower peak demand by incentivizing customers to lower electricity usage upon request), and renewable resources could replace the Kingston Fossil Plant. Conservation Groups referred to this combination as a “Clean Energy Portfolio.”

126. Regarding the Draft EIS’s assumption that Alternative B would take eight to nine years due to transmission upgrades, Conservation Groups submitted an expert report from Grid Strategies finding that batteries and solar can be deployed more quickly than gas-fired power plants.

127. Grid Strategies noted that battery and solar resources are highly modular and can be “strategically sized and located to avoid exceeding interconnection capacity limits and triggering major transmission upgrades.”

128. EPA and Conservation Groups both raised concerns that, particularly in light of the Precedent Agreement, TVA appeared to have committed significant resources to the Kingston Gas Plant before completing NEPA review.

III. Air Quality

129. In the Draft EIS, TVA found that the Kingston Gas Plant would result in “permanent beneficial effects” impacts to local air quality.

130. The Draft EIS used industry-wide capacity factors—that is, how often gas units operate—to estimate the Kingston Gas Plant’s air pollution emissions.

131. The Draft EIS claimed that compliance with air permits would ensure air quality is not adversely affected.

132. Conservation Groups and EPA requested that TVA estimate air pollution impacts based on how the Kingston Gas Plant was likely to operate. Conservation Groups and EPA noted

that the Kingston Gas Plant was likely to operate more frequently than TVA's older gas plants, leading to an above-average capacity factor.

133. Conservation Groups and EPA also requested that TVA analyze the Kingston Gas Plant's impacts to local air quality.

134. Conservation Groups and EPA noted that, for some pollutants, the Kingston Gas Plant could release more air pollution than the Kingston Fossil Plant.

135. Conservation Groups requested that TVA analyze the impacts to local air quality from the Kingston Gas Plant's emissions, noting that compliance with an air permit does not prevent impacts to air quality.

136. The National Park Service commented that, "[w]hile cleaner than coal, natural gas-fired generation still emits criteria air pollutants and just over half the amount of greenhouse gases on a pound-per-megawatt basis as coal." The National Park Service requested that TVA apply more stringent nitrogen oxide emissions limits to the Kingston Gas Plant to "improve visibility and minimize pollution deposition in Great Smoky Mountains National Park."

IV. Climate Impacts

137. The Draft EIS found that the Kingston Gas Plant would result in "permanent beneficial effects" to climate change.

138. TVA reached this conclusion by emphasizing that the Kingston Gas Plant would emit lower rates of carbon dioxide than the Kingston Fossil Plant.

139. The Draft EIS did not analyze how the Kingston Gas Plant—projected to operate from 2027 through 2057—would or would not align with science-based climate goals, such as those established in the Paris Agreement or federal Executive Orders 14,008 and 14,057.

140. By signing the Paris Agreement, the United States committed to slowing global warming to "well below 2°C above pre-industrial levels and pursuing efforts to limit the

temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.” Paris Agreement art. 2, § 1(a), Dec. 12, 2015, 3156 U.N.T.S. 54113.

141. In Executive Orders 14,008 and 14,057, President Biden declared federal climate goals of a carbon-pollution free electricity sector by 2035 and net-zero economy-wide by no later than 2050.

142. The Draft EIS did not analyze how the Kingston Gas Plant would or would not align with TVA’s own Strategic Intent and Guiding Principles, in which TVA outlined a climate target of “net-zero carbon emissions by 2050.”

143. The Draft EIS does not estimate how much methane would leak upstream—for example, during extraction and transportation—of the Kingston Gas Plant.

144. To calculate the global warming impact of the Kingston Gas Plant’s combustion-related methane emissions, TVA applied the 100-year “global warming potential.” Global warming potential is a figure experts use to account for differences in potency of various greenhouse gases over different timelines, such as 20 years or 100 years. By applying a 100-year global warming potential, TVA assumed methane to be 25 times as powerful as carbon dioxide in warming the climate.

145. EPA and Conservation Groups encouraged TVA to analyze the Kingston Gas Plant’s emissions against various climate targets, including President Biden’s 2035 goal and TVA’s own 2050 goal.

146. EPA and Conservation Groups also encouraged TVA to fully account for the methane emissions associated with the Kingston Gas Plant, including by accounting for upstream emissions that occur from the wellhead, along the pipeline system, and through combustion.

147. Conservation Groups emphasized that methane leakage throughout the gas supply chain has the potential to eliminate or significantly reduce any climate benefit of switching from coal to gas.

148. EPA and Conservation Groups encouraged TVA to analyze recent studies finding significantly higher rates of methane leakage across the gas infrastructure system than the Draft EIS assumed. Conservation Groups submitted a recent peer-reviewed study identifying leakage rates as high as 9.4% across the gas supply chain.

149. Conservation Groups requested that TVA apply methane's 20-year global warming potential. Methane's 20-year global warming potential is between 84 and 87 times greater than carbon dioxide, significantly higher than its 100-year global warming potential. Conservation Groups explained that methane's leakage and short-term potency are significant aspects of the Kingston Gas Plant's climate impacts.

V. Least-Cost Planning Analysis

150. Based on the TVA Act's least-cost planning requirements, 16 U.S.C. § 831m-1, TVA analyzed the "system costs" of the various alternatives in the Draft EIS.

151. The Draft EIS concluded that the Kingston Gas Plant would be the "lowest cost alternative."

152. The Draft EIS found that Alternative A would cost \$1.2 billion less than Alternative B.

153. Conservation Groups and EPA commented that the Draft EIS had unreasonably minimized the costs of Alternative A, such as by excluding environmental compliance costs.

154. Conservation Groups and EPA noted that, at the same time, the Draft EIS unreasonably inflated the costs of Alternative B. Critically, TVA had entirely excluded clean energy incentives from the Inflation Reduction Act.

155. To more accurately assess alternatives' costs, EPA recommended that TVA "consider reasonably foreseeable costs, taxes, regulations, and subsidies that have changed or are reasonably likely to change before a replacement plant is built."

156. Conservation Groups submitted two expert reports identifying various flaws in the Draft EIS's least-cost planning analysis. One report, from the Applied Economics Clinic, highlighted that the decision to retire the Kingston Fossil Plant did not fall within the scope of TVA's 2019 Integrated Resource Plan.

157. By the time of the Final EIS, TVA had already exceeded the coal retirements the 2019 IRP analyzed.

158. The 2019 IRP analyzed up to 2,200 megawatts of additional coal retirements. With its January 2023 decision to replace the 2,470 megawatts Cumberland coal plant with a new gas plant, TVA had exceeded that range.

159. As a result, the decision to retire and replace the Kingston Fossil Plant was beyond the scope of the 2019 IRP.

160. The other report, from Grid Strategies LLC, highlighted various flawed assumptions in the Draft EIS. For example, the Draft EIS drove up costs by assuming an exorbitant amount of storage. Based on undisclosed analysis, the Draft EIS assumed it would need 2,200 megawatts of battery storage, paired with 1,500 megawatts of solar, to replace the coal-fired Kingston Fossil Plant, which has a summer net capacity of 1,298 megawatts.

161. Transparently and reasonably applying data from the Department of Energy's Energy Information Administration, Grid Strategies found that 972 megawatts of batteries, when paired with solar, could replace the Kingston Fossil Plant.

162. That significantly lower amount of battery storage led Grid Strategies to find that a

reasonable solar-and-storage alternative would save ratepayers about \$1.2 billion compared to the Kingston Gas Plant.

163. In effect, TVA drove up the costs of Alternative B by assuming more than double the amount of battery storage than could reasonably replace the Kingston Fossil Plant.

164. Conservation Groups' experts recommended that TVA consider a portfolio that included demand response, energy efficiency, wind, and solar to replace the Kingston Fossil Plant at the lowest system cost.

TVA's Final Environmental Impact Statement

165. On February 23, 2024, TVA published the Kingston Final EIS. Ignoring comments from Conservation Groups and EPA, the Final EIS largely repeated the Draft EIS's mistakes.

I. Purpose and Need

166. In the FEIS, TVA restated that the purpose for the proposed action was to retire and replace all nine of Kingston's coal-fired units by 2027.

167. TVA again justified the self-imposed 2027 deadline by citing the Aging Coal Fleet Evaluation. TVA did not address Conservation Groups' comments that the Aging Coal Fleet Evaluation is not a NEPA document, that it was not otherwise circulated for public notice-and-comment review, and that it made recommendations rather than final decisions.

168. TVA also rationalized the 2027 timeline by pointing to investments purportedly required by the effluent limitation guidelines. TVA did not consider, as EPA requested, taking the full timeline available—until December 31, 2029—to comply with the ELG rule.

169. However, TVA acknowledged that it might continue to operate the Kingston Fossil Plant past 2027.

II. Alternatives Analysis

170. With respect to alternatives, the Final EIS repeated many of the Draft EIS's flaws.

171. The Final EIS evaluated the same two action alternatives as in the Draft EIS.

172. Citing the self-imposed 2027 deadline, the Final EIS again rejected every alternative besides the Kingston Gas Plant for failing to meet the proposal's purpose and need.

173. The Final EIS rejected other alternative resources, including demand response and energy efficiency, one by one.

174. The Final EIS did not evaluate any portfolio combining energy efficiency and demand response with solar and battery storage.

175. In the Final EIS, TVA eliminated a "blended resources" alternative (hereinafter, "Blended Alternative")—which EPA had requested—from detailed analysis. TVA claimed that a Blended Alternative would require upgrades beyond the existing Kingston site, would not meet the 2027 deadline, and would "result in increased capital cost."

176. In the Final EIS, TVA assumed that Alternative B would take 8.4 years to complete due to site selection, transmission upgrades, and the interconnection process. TVA based that conclusion "on TVA's transmission-specific experience."

177. TVA did not respond to comments highlighting that, as the transmission owner and operator, TVA largely controls the speed of the interconnection and transmission processes.

III. Air Quality

178. Like the Draft EIS, the Final EIS provided little insight into the Kingston Gas Plant's likely impacts on air quality.

179. The Final EIS again applied industry-wide averages for the Kingston Gas Plant units' capacity factors to estimate their air pollution.

180. In response to EPA and Conservation Groups' comments, TVA cited "load growth, natural gas prices, composition of the balance of TVA's generation fleet in any given year [and] outages" as uncertainties that make more accurate capacity factors impossible to devise.

181. But within the administrative record for the Final EIS, TVA had sufficient information to estimate each of these factors. Not only *could* TVA estimate how much the Kingston Gas Plant would operate, but elsewhere in TVA’s NEPA review, TVA did just that.

182. In subsection 3.7.2.5.1 of the Final EIS, TVA performed a 20-year “analysis for the entire TVA-wide power system . . . using industry standard capacity planning and production cost models.” That model estimates “economic dispatch,” meaning the order in which TVA would operate its various plants based on lowest to highest operating costs.

183. TVA acknowledges that the modeling indicates a relatively high capacity factor for the Kingston Gas Plant’s combined cycle unit in the short term. As the Final EIS notes, the Kingston Gas Plant would be among TVA’s newest, most efficient gas plants. Discussing TVA’s modeling results, TVA noted that the combined cycle unit “is likely to be dispatched frequently in baseload or intermediate operations in the near term.” The combustion turbine units “would be among the most efficient peaking units.”

184. Not only did the Final EIS fail to reasonably estimate the Kingston Gas Plant’s air pollution, but the Final EIS largely ignored the *impacts* of the Kingston Gas Plant’s air pollution. TVA asserted that the Kingston Gas Plant would emit lower levels of pollution than the coal-fired Kingston Fossil Plant, and that compliance with a Clean Air Act permit would “minimize the risk [of] air quality effects.” Other than for a single pollutant, formaldehyde, the Final EIS did not include any discussion of the Kingston Gas Plant’s air pollution impacts.

185. The Final EIS failed to respond to Conservation Groups’ comments that, for some pollutants, the Kingston Gas Plant would emit more air pollution than the Kingston Fossil Plant.

IV. Climate Impacts

186. The Final EIS repeated the flawed climate analysis from the Draft EIS.

187. Ignoring TVA and Conservation Groups’ comments, TVA did not analyze the

Kingston Gas Plant's greenhouse gas emissions against science-based climate-policy goals, including TVA's own 2050 target.

188. The Final EIS did not mention the Valley Pathways Study, whose preliminary results TVA itself and the University of Tennessee Baker Center had published one week earlier. The study analyzed the region's ability to achieve net zero greenhouse gas emissions, including the role TVA's operational emissions play in achieving net zero.

189. In the Final EIS, TVA again underestimated the volume and potency of the Kingston Gas Plant's methane emissions.

190. The Final EIS acknowledged that upstream methane leakage occurs but did not disclose reasonable estimates of the Kingston Gas Plant's upstream methane leakage.

191. The Final EIS exclusively applied a 100-year global warming potential.

192. TVA did not address Conservation Groups' comments that a 20-year global warming potential was essential to evaluating the Kingston Gas Plant's climate impacts.

V. Least-Cost Planning Analysis

193. The Final EIS repeated the flawed least-cost planning analysis of the Draft EIS.

194. According to the Final EIS, the Kingston Gas Plant would cost approximately \$1 billion less than Alternative B. As a result, the Final EIS concluded that the Kingston Gas Plant represented the "lowest total system cost" alternative.

195. TVA did not respond to Conservation Groups' comments that 2,200 megawatts of battery storage was far more than required, unreasonably driving up Alternative B's costs.

196. The Final EIS continued to omit major Inflation Reduction Act benefits that would lower costs.

197. By omitting "adder" incentives from the Inflation Reduction Act, the Final EIS ignored a potential 20% discount for solar and storage projects that meet domestic content

requirements and are located in energy communities.

198. The Final EIS repeatedly inflated solar and storage costs by relying on out-of-date information that ignored recent cost declines.

199. The Final EIS cited a 2022 document from the Solar Energy Industries Association to find the IRA's "short-term effects" involve "higher prices, and a limited supply of resources."

200. Before the Final EIS, the Solar Energy Industries Association had updated that published report six times.

201. The most current version at the time of TVA's Final EIS found prices were "down 10-15% [during the third quarter of 2023] as supply constraints have alleviated."

202. TVA also applied pricing based on responses to an October 2022 request for proposal issued in the midst of major, pandemic-related supply chain disruptions that had since been resolved.

203. Solar prices peaked in October 2022 and had fallen approximately 60% by the time TVA issued the Final EIS.

204. During the years of project construction, TVA's solar cost projections are approximately 20% higher than even the most conservative pricing estimates from 2023 National Renewable Energy Laboratory forecasts.

205. The Final EIS failed to consider whether demand-side resources, including energy efficiency and demand response, could help to cost effectively replace the Kingston Gas Plant as part of a Clean Energy Portfolio.

206. TVA's arbitrary conclusion also rests on the 2019 Integrated Resource Plan. In its Record of Decision, TVA emphasized that the Kingston Fossil Plant "aligns with the 2019 IRP, which guides future generation planning consistent with TVA's congressionally mandated least-

cost planning principles.”

207. The Final EIS did not address Conservation Groups’ comments that the retirement and replacement of the Kingston Fossil Plant exceeded the outer scope of the 2019 IRP’s recommendations.

EPA’s Comments on the Final EIS

208. EPA was involved in the Kingston NEPA review process from the start, serving as a cooperating agency and providing extensive comments on the Draft EIS.

209. Upon review, EPA found the Final EIS “inadequate.” In a March 25, 2024, letter, EPA recommended the following:

- Avoid defining the purpose and need of the project too narrowly, such that it is only fully met by the preferred alternative;
- Evaluate a reasonable range of alternatives that considers at least one alternative for formal analysis that provides for a decarbonization transition strategy at [the Kingston coal plant];
- Update the air quality analysis and emissions estimates to use the best available data for the facility level analysis;
- Remove the outdated 2020 Social Cost of [greenhouse gas (“GHG”)] estimates and only [use] estimates that represent the best available science;
- Discuss disproportionate impacts specifically from GHGs;
- Incorporate practical mitigation options to reduce GHG emissions; and
- Incorporate the considerable tax incentives for adopting carbon capture and storage, established under the IRA (for example, the Final EIS’s failure to reflect the [Section] 45Q tax incentives results in a substantial overestimate of the costs of carbon capture).

210. EPA wrote, “Given these serious deficiencies, the Final EIS does not satisfy the requirements of NEPA and its implementing regulations.”

211. To fix those deficiencies, EPA requested that TVA issue a “supplemental EIS.”

212. EPA also requested a meeting with TVA to discuss EPA’s concerns and recommendations.

213. The agencies met on March 27, 2024. In an email sent the same day, EPA staff

requested a follow-up meeting the next week to continue addressing EPA's concerns.

214. TVA staff did not reply to that email until April 2, and the reply announced that TVA's CEO Jeff Lyash had already signed a record of decision approving the Kingston Gas Plant.

TVA's Record of Decision

215. TVA published the Record of Decision in the Federal Register on April 8, 2024.

216. The Record of Decision, signed by TVA's CEO Jeff Lyash, certified "that the agency has considered all of the alternatives, information, analyses, material in the record determined to be relevant, and comments submitted by Federal, State, Tribal and local governments and public commenters for consideration in developing the Final EIS." Kingston Fossil Plant Retirement Environmental Impact Statement Record of Decision, 89 Fed. Reg. 24,557, 24,562–63 (Apr. 8, 2024).

217. In the Record of Decision, TVA summarized the findings of the Final EIS.

218. The Record of Decision included several additional responses to comments EPA and Conservation Groups had raised on the Final EIS.

219. The Record of Decision does not resolve the above-listed flaws Conservation Groups and EPA identified in the Draft and Final EIS.

220. The Record of Decision announced that "TVA has decided to implement the Preferred Alternative identified in the Final EIS: Alternative A."

CLAIMS FOR RELIEF

Claim One:

Failure to Consider a Reasonable Range of Alternatives

221. All allegations stated above are incorporated herein by reference.

222. NEPA regulations obligate agencies to "briefly specify the underlying purpose and need to which the agency is responding in proposing alternatives including the proposed action."

40 C.F.R. § 1502.13.

223. An agency may not define the purpose and need for a proposed action in unreasonably narrow terms.

224. NEPA obligates agencies to consider “a reasonable range of alternatives to the proposed agency action . . . that are technically and economically feasible, and meet the purpose and need of the proposal.” 42 U.S.C. § 4332(2)(C)(iii).

225. In the Final EIS, TVA stated that “the purpose of the proposed action is to retire and decommission all nine of the existing [Kingston] coal-fired units by the end of 2027 and implement replacement generation that can supply at least 1,500 megawatts of firm, dispatchable power by the time the units are retired, which accounts for replacement generation plus capacity for load growth.”

226. This statement of purpose and need is unreasonably narrow because the Final EIS provides no reasonable basis to exclusively consider a 2027 retirement date.

227. TVA arbitrarily failed to consider that EPA’s effluent limitation guidelines would allow the Kingston Fossil Plant to continue operating without new water-pollution limits through December 31, 2029.

228. TVA failed to consider a reasonable range of alternatives that could meet its stated purpose and need.

229. The Final EIS arbitrarily assumed that TVA could not complete Alternative B, a Clean Energy Portfolio, and any Blended Alternative by 2027.

230. To conclude that Alternative B or any alternative with a “substantial renewable component” would not meet the stated purpose and need, TVA relied on the arbitrary assumption that transmission upgrades would take more than eight years.

231. The Final EIS unreasonably failed to analyze whether it could minimize the timeframe for transmission upgrades by strategically locating solar and battery storage installations.

232. The Final EIS unreasonably failed to consider and respond to comments that, as the transmission operator, TVA exerts significant control over the pace of renewable energy additions in its service territory.

233. TVA failed to consider reasonable alternatives, such as a Clean Energy Portfolio and a Blended Alternative.

234. By identifying only a single action alternative that, according to the Final EIS, satisfied its statement of purpose and need, TVA violated NEPA's mandate to consider "a reasonable range of alternatives to the proposed agency action . . . that are technically and economically feasible, and meet the purpose and need of the proposal." 42 U.S.C. § 4332(2)(C)(iii).

235. By devising an unreasonably narrow statement of purpose and need, relying on irrational assumptions to compare alternatives, and ignoring reasonable alternatives, the Final EIS violated NEPA's mandate to consider a reasonable range of alternatives and was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

236. Accordingly, the Kingston Final EIS and the Kingston Record of Decision must be held unlawful and set aside. 5 U.S.C. § 706(2).

Claim Two:

Failure to Take a Hard Look at the Environmental Impacts of the Kingston Gas Plant

237. All allegations stated above are incorporated herein by reference.

238. NEPA requires federal agencies to take a "hard look" at the environmental consequences of their proposed actions. Agencies must adequately study the issues and provide an

explanation that rationally connects the data with the choice made.

239. An agency fails to take a hard look under NEPA when it ignores an important aspect of the problem.

240. NEPA requires agencies to objectively compare alternatives using accurate and reliable information. 40 C.F.R. §§ 1502.14, 1502.23.

241. An EIS must discuss effects “resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial.” 40 C.F.R. § 1508.1(g)(4).

242. While agencies may identify a preferred alternative, an EIS “must be objectively prepared and not slanted to support the choice of the agency’s preferred alternative over the other reasonable and feasible alternatives.” Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,027 (Mar. 23, 1981).

243. Agencies must “ensure the professional integrity, including scientific integrity, of the discussion and analysis in an [EIS].” 42 U.S.C. § 4332(2)(D).

244. NEPA imposes requirements on federal agencies with regard to “incomplete or unavailable information” in an EIS. 40 C.F.R. § 1502.21. For example, an agency must obtain available information and include it in an EIS if the information is “essential to a reasoned choice among alternatives . . . and the overall costs of obtaining it are not unreasonable[.]” *Id.* § 1502.21(b).

I. Air Pollution

245. TVA arbitrarily ignored and underestimated the Kingston Gas Plant’s impacts from air and climate pollution.

246. TVA refused to estimate air and climate pollution based on the Plant’s likely operations.

247. TVA arbitrarily relied on industry-wide averages when it had access to project-level information to provide a more accurate estimate of how often the Kingston Gas Plant would operate and how much air pollution it would emit.

248. By relying on less accurate data when it had more accurate data, TVA failed to ensure the professional and scientific integrity of its NEPA review.

249. By refusing to estimate air and climate pollution based on how the Kingston Gas Plant is likely to operate, when TVA had the information to do so, TVA failed to take a hard look at the Gas Plant's air and climate impacts.

250. The Final EIS unreasonably failed to analyze how the Gas Plant's air pollution, alone or in combination with other sources, will impact the air quality near the Kingston site.

II. Climate Pollution

251. TVA's climate analysis was arbitrary because TVA omitted any analysis of relevant decarbonization goals and ignored methane's global warming impacts over a 20-year period.

252. Under CEQ's 2023 climate guidance, CEQ recommends that agencies consider greenhouse gas emissions in the context of climate goals:

Where helpful to provide context, such as for proposed actions with relatively large GHG emissions or reductions or that will expand or perpetuate reliance on GHG-emitting energy sources, agencies should explain how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments, including Federal goals, international agreements, state or regional goals, Tribal goals, agency-specific goals, or others as appropriate.

National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1,196, 1,203 (Jan. 9, 2023).

253. Commenters raised various goals for TVA to consider: the Paris Agreement (limit warming to 1.5°C) and federal climate goals declared in Executive Orders 14,008 and 14,057 (a carbon-free electricity sector by 2035; net-zero carbon emissions economy-wide by 2050). The

Kingston Gas Plant would begin service by 2027, and TVA estimates that the plant would operate for at least 30 years.

254. Commenters asked TVA to analyze what the Kingston Gas Plant means for those goals, as well as TVA's own climate goal of net-zero carbon emissions by 2050.

255. TVA did not analyze the Kingston Gas Plant's emissions against those targets and did not explain why it could not.

256. TVA failed to acknowledge and explain the conflicts between its 2050 net-zero carbon goal and the Kingston Gas Plant, which TVA estimates would emit carbon pollution through 2057.

257. By refusing to compare greenhouse gas emissions to emissions-control goals, including its own, TVA omitted context and analysis critical to informed decision-making with respect to the greenhouse-gas effects of the Kingston Gas Plant.

258. TVA also underestimated the volume and potency of the Kingston Gas Plant's methane emissions.

259. In the Draft EIS, TVA exclusively applied methane's 100-year global warming potential.

260. In the Draft EIS, TVA also failed to disclose a reasonable estimate of upstream methane emissions.

261. Conservation Groups commented that, based on the project's timeline and methane's substantially higher short-term impacts, TVA should apply methane's significantly higher 20-year global warming potential.

262. Conservation Groups and EPA also commented that TVA should estimate emissions from upstream methane leakage based on multiple peer-reviewed studies.

263. In the Final EIS, TVA did not address Conservation Groups' comments regarding methane's 20-year global warming potential.

264. In the Final EIS, TVA did not consider methane's 20-year global warming potential.

265. In the Final EIS, TVA acknowledged that upstream methane leakage occurs but failed to reasonably estimate the Kingston Gas Plant's upstream methane leakage.

266. By omitting any discussion of methane's 20-year global warming potential, TVA ignored significant points raised in public comments and failed to consider an important aspect of the problem, violating the agency's hard-look obligations under NEPA and the APA.

267. By underestimating the volume and potency of the Kingston Gas Plant's methane emissions, TVA ignored an important aspect of the problem and failed to ensure the scientific integrity of its review, violating the agency's hard-look obligations under NEPA and the APA.

268. Accordingly, the Kingston Final EIS and the Kingston Record of Decision must be held unlawful and set aside. 5 U.S.C. § 706(2).

Claim Three:
Failure to Issue a Record of Decision Before Committing to the Kingston Gas Plant

269. All allegations stated above are incorporated herein by reference.

270. Under NEPA, an EIS "shall be prepared early enough so that it can serve as an important practical contribution to the decision-making process and will not be used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5.

271. NEPA regulations prohibit an agency from taking actions that would "[l]imit the choice of reasonable alternatives" until it issues a record of decision following publication of a final EIS. 40 C.F.R. §§ 1506.1(a)(2), 1505.2, 1502.2(f).

272. On August 12, 2021—over two and a half years before publishing the Record of

Decision—TVA entered into the Precedent Agreement with gas-pipeline developer East Tennessee Natural Gas, LLC.

273. Under the Precedent Agreement, East Tennessee Natural Gas conditionally agreed to build a new gas pipeline to supply gas to the Kingston Gas Plant, shipped and paid for by TVA.

274. In the original version executed in August 2021, Section 5 of the Precedent Agreement provides: “To effectuate the firm transportation service contemplated herein, no later than 10 days following the satisfaction or waiver of the condition precedent in Section 9(A)(ii), [TVA] and [East Tennessee Natural Gas Company] shall execute the Service Agreement”

275. Under the Service Agreement, TVA would purchase all available shipping capacity on the pipeline for an initial term of 20 years.

276. Under the Service Agreement, East Tennessee Natural Gas would recover some or all of its pipeline construction costs from TVA through gas rates.

277. By the time TVA issued a Record of Decision, East Tennessee Natural Gas had spent at least \$94 million on the Kingston Gas Pipeline.

278. TVA did not terminate the Precedent Agreement before issuing the Record of Decision.

279. On December 22, 2022—over a year before publishing the Record of Decision—TVA executed the GE Contract for turbines and other equipment needed for proceeding with Alternative A.

280. By the time TVA issued a Record of Decision, TVA had spent at least \$181 million on equipment for the Kingston Gas Plant.

281. Pursuant to the Precedent Agreement and GE Contract, TVA and East Tennessee Natural Gas had spent at least \$275 million combined on the Kingston Gas Plant and Pipeline.

282. By committing hundreds of millions of dollars to the Kingston Gas Plant's infrastructure and equipment before finalizing its NEPA process, TVA irreversibly and irretrievably committed itself to the Kingston Gas Plant, slanting its NEPA review toward a predetermined outcome and limiting its choice of alternatives in the Final EIS.

283. TVA's failure to complete its NEPA review for the Kingston Gas Plant before the agency committed hundreds of millions of dollars to the project violated NEPA and was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

284. Accordingly, the Kingston Final EIS and the Kingston Record of Decision must be held unlawful and set aside. 5 U.S.C. § 706(2).

Claim Four:
Arbitrary Finding that the Kingston Gas Plant is TVA's "lowest system cost" Alternative

285. All allegations stated above are incorporated herein by reference.

286. TVA's conclusion that Alternative A represents the "lowest total system cost" is arbitrary and capricious.

287. Under the TVA Act, TVA must conduct a least-cost planning program "in order to provide adequate and reliable service to electric customers of the Tennessee Valley Authority at the lowest system cost." 16 U.S.C. § 831m-1(b)(1).

288. "System cost" includes "*all* direct and quantifiable net costs for an energy resource over its available life, including the cost of production, transportation, utilization [and] environmental compliance [.]” *Id.* § 831m-1(b)(3) (emphasis added).

289. In the NEPA process, TVA conducted a "Least-cost Planning Evaluation" based on the "least-cost planning principles" of the TVA Act.

290. In the Final EIS, TVA recommended Alternative A as the "Preferred Alternative" based on "TVA's financial and system analysis, using the least-cost planning framework along

with consideration of the environmental impacts of the two alternatives.”

291. TVA concluded that Alternative B’s “total system costs” would be \$972 million more than Alternative A. TVA found that “Alternative A is the lowest-cost alternative.”

292. Based partly on this finding, TVA made a final decision to implement Alternative A, the Kingston Gas Plant.

293. TVA arbitrarily drove up Alternative B’s costs.

294. TVA analyzed more than double the amount of battery storage than is reasonably necessary to replace the Kingston Fossil Plant.

295. Based on undisclosed analysis, TVA assumed it would need 2,200 megawatts of battery storage to meet the stated purpose and need.

296. In comments on the Draft EIS, Conservation Groups submitted reasonable evidence that 972 megawatts of batteries could meet the stated purpose and need.

297. That significantly lower amount of battery storage was the primary reason Conservation Groups’ expert report found that a reasonable solar-and-storage alternative would cost about \$1.2 billion *less* than the Kingston Gas Plant.

298. In the Final EIS, responses to comment, and its expert report, TVA did not address Conservation Groups’ finding that a much lower amount of battery storage was necessary to meet the proposed action’s purpose and need.

299. Thus, TVA violated the APA by reaching a conclusion that is contrary to the evidence in front of the agency, ignoring significant points raised in public comments, and failing to consider an important aspect of the problem.

300. TVA also drove up the costs of Alternative B by relying on arbitrary cost assumptions.

301. By omitting “adder” incentives from the Inflation Reduction Act, TVA ignored a potential 20% discount for solar and storage projects.

302. TVA inflated solar and storage costs by relying on out-of-date information and ignoring recent cost declines.

303. For solar and storage pricing, TVA relied on multiple sources from 2022, the year that pricing temporarily peaked due to pandemic-related supply chain constraints.

304. As those constraints eased, pricing forecasts dropped substantially by the time TVA issued the Final EIS and Record of Decision in 2024.

305. As a result, TVA’s cost assumptions significantly exceeded the most conservative cost assumptions from common industry sources, including the National Renewable Energy Laboratories, at the time of the Final EIS and Record of Decision.

306. TVA’s least-cost analysis is fundamentally flawed because TVA failed to consider whether demand-side resources could help to replace Kingston at the lowest system cost.

307. The TVA Act obligates TVA to “treat demand and supply resources on a consistent and integrated basis.” 16 U.S.C. § 831 m-1(b)(2)(C).

308. TVA refused to analyze whether demand-side resources, such as demand response and energy efficiency, could combine with supply-side resources to replace the Kingston Fossil Plant at the lowest system cost.

309. The Final EIS did not analyze whether demand-side resources could lower the amount of supply-side resources needed in the first place, whether in Alternative A, Alternative B, a Clean Energy Portfolio, or EPA’s requested Blended Alternative.

310. TVA’s failure to consider whether *some* amount of energy efficiency and *some* amount of demand response could offset physical capacity needs to replace the Kingston Fossil

Plant conflicts with the agency's mandate to consider these resources on a consistent and integrated basis.

311. Without considering demand-side resources on a consistent and integrated basis with supply-side resources, TVA had no reasonable basis to conclude that Alternative A would be the lowest system cost alternative.

312. Accordingly, the Kingston Final EIS and Record of Decision must be held unlawful and set aside. 5 U.S.C. § 706(2).

PRAYER FOR RELIEF

WHEREFORE, based upon all the allegations contained in the foregoing paragraphs, Plaintiffs Appalachian Voices, Center for Biological Diversity, and Sierra Club respectfully request that the Court:

- a) Enter a declaratory judgment that the Kingston Final EIS violated NEPA and TVA's decision to issue the Kingston Record of Decision was arbitrary, capricious, and/or not in accordance with law;
- b) Enter a declaratory judgment that the least-cost-planning analysis in the Kingston Final EIS and Record of Decision was arbitrary, capricious, and/or not in accordance with law;
- c) Vacate the Kingston Final EIS and the Kingston Record of Decision;
- d) Order TVA to prepare a revised Draft EIS or supplemental EIS subject to public comment that corrects the NEPA violations identified in this Complaint and complies with the TVA Act's least-cost planning requirements;
- e) Enjoin further construction and operation of the Kingston Gas Plant until TVA has complied with NEPA and the APA;

- f) Award Plaintiffs the costs of this action, including attorney fees, pursuant to 28 U.S.C. § 2412; and
- g) Grant such other relief as this Court deems just and equitable.

DATE: October 10, 2024

Respectfully submitted,

s/ O.W. "Trey" Bussey

O.W. "Trey" Bussey, TN BPR No. 037814

Amanda Garcia, TN BPR No. 033773

SOUTHERN ENVIRONMENTAL LAW CENTER

1033 Demonbreun Street, Suite 205

Nashville, TN 37203

Telephone: (615) 921-9470

Facsimile: (615) 921-8011

tbussey@selctn.org

agarcia@selctn.org

Gregory Buppert, TN BPR No. 024340

SOUTHERN ENVIRONMENTAL LAW CENTER

120 Garrett Street, Suite 400

Charlottesville, VA 22902

Telephone: (434) 977-4090

Facsimile: (434) 993-5549

gbuppert@selcva.org

*Counsel for Appalachian Voices, Center for Biological
Diversity, and Sierra Club*